Record of Decision
based on the
Final Environmental Impact Statement
for the
South Manti Timber Salvage

USDA Forest Service
Manti-La Sal National Forest
Ferron-Price and Sanpete Ranger Districts
Sanpete and Sevier Counties, Utah

June 2004

Responsible Agency:	USDA Forest Service, Intermountain Region
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I. INTRODUCTION

A. Area Overview

This project was initiated in response to epidemic spruce beetle (*Dendroctonus rufipennis*) activity across the South Manti landscape. The Final Environmental Impact Statement (FEIS) summarizes potential direct, indirect, and cumulative effects of corresponding site-specific forest management alternatives on portions of the Ferron-Price and Sanpete Ranger Districts of the Manti-La Sal National Forest.

The project area includes approximately 24,597 acres of National Forest System lands within the southern portion of the Wasatch Plateau on the Ferron-Price and Sanpete Ranger Districts of the Manti-La Sal National Forest, in Sanpete and Sevier Counties, Utah (Townships 19, 20, and 21 South; Range 4 East; SLM). The project area is approximately 10 miles southwest of the town of Manti, 12 miles east of the town of Mayfield, 19 miles west of the town of Ferron, and 45 miles southwest of the town of Price. The project area extends from White Mountain, along the Manti-La Sal and Fishlake National Forest boundaries, north to the headwaters of Ferron and Sixmile drainages.

The project area is characterized by a mountainous terrain, which includes rock formations and glacial cirques. There are panoramic ridges and valley views (some containing lakes or reservoirs) of subalpine scenery. There is evidence of past and present management in the area such as grazing, timber harvest, roads, trails, and camping areas, which have shaped the overall landscape conditions. Dispersed recreation is evident by camping areas and road and trail use.

Vegetation in the project area is represented predominantly by three cover types: Engelmann spruce-Subalpine fir (47%), grass and brush (36%), and aspen (12%). The Engelmann spruce-Subalpine fir cover type represents over 10,000 acres in the project area. A spruce beetle epidemic has affected most of the spruce within this area. As a result, most spruce trees are dead or dying. Dead trees are those spruce trees in which the flow of nutrients in the cambium/phloem layer, beneath the bark, has ceased. These trees may or may not look dead, depending upon how long they have been dead. Dying trees are those spruce trees with multiple spruce beetle attacks that encircle the tree bole. The spruce trees do not appear dead until generally two years after the spruce beetle have attacked the trees. Approximately seventy percent of the spruce trees with a diameter greater than five inches at breast height and ninety percent of the spruce trees with a diameter greater than eleven inches at breast height are dead.

B. Decisions to be Made

The Responsible Official, Forest Supervisor of the Manti-La Sal National Forest, will make the following decisions associated with this document as discussed in Chapter One, page 10 of the FEIS.

1. Whether to harvest dead and dying trees and, if so, the location, methods of harvest, silvicultural diagnosis, reforestation, and post-sale activities;

2. Whether to change short-term and/or long-term access and, if so, the location, methods of road construction, reconstruction, maintenance, rehabilitation, closure, and access management;

3. What, if any, additional measures are necessary to implement a decision;

4. What, if any, specific project monitoring requirements are needed to assure selected measures are implemented and effective; and

5. Whether Forest Plan Amendments are needed to implement a decision.

II. THE DECISION

A. The Selected Alternative

After careful review of the public comments, the analysis disclosed in the FEIS, and project file, I have decided to select Alternative 4, with minor changes. My decision, hereafter called the Selected Alternative, closely resembles Alternative 4 (see pages 2-12 and 2-13 of the FEIS), and includes minor changes since the 2000 decision as shown in the attached errata sheet, response to comments, and updating the project file. A map of the Selected Alternative is included at the end of this ROD.

The effects and impacts of the Selected Alternative are consistent with those described in Alternative 4 in the FEIS, the response to comments, and project file. The Selected Alternative will do the following:

- The decision does not enter any Inventoried Roadless Areas (IRA) as identified in RARE II and the Forest Plan.

- Salvage harvesting of 19-25 MMBF of dead and dying spruce trees across 3,823 acres. Past experience indicates that 50 to 65 percent of the treatment area is likely to be harvested (1,912 to 2,485 acres). Logging systems planned are tractor, helicopter, and cable. It is estimated that this timber would be removed in 5-7 years with multiple sales.

- Estimated road work associated with the proposal as follows: reconstruction of 9.2 miles of National Forest System Roads (NFSR) and 0.5 miles of temporary road (would not be open to public travel and reclaimed after use) to meet current and future resource management needs in the area. An additional 0.5 miles of NFSR would be placed into maintenance level 1 (closed to public travel) after post sale activities.

- Approximately 8.8 miles of unclassified roads and trails that are no longer needed for long term management of the National Forest resources will be decommissioned.

- Plant Engelmann spruce on 332-431 acres, mechanical scarification for site preparation on 257-334 acres, and naturally reforest 553-719 acres. Gopher control for reforestation protection may take place on 365-474 acres.

- Treat harvest generated and existing fuels through various methods as follows: whole tree yard tractor yarding units on an estimated 230-299 acres; lop and scatter 1,639 - 2,131 acres of the helicopter yarding units; and jackpot burn 10% of the helicopter yarding units (164 - 213 acres).

B. Design Features

In addition to the standards and guidelines in the Forest Plan, project specific design features (attached), and Best Management Practices and monitoring measures are described in the Appendix D of the FEIS and shall be incorporated.

C. Forest Plan Amendment

Based upon review of the Forest Plan and analysis of this project, I have determined the Selected Alternative is consistent with the Forest Plan, and therefore an amendment is not necessary to implement this decision (see Chapter Four, pages 92-98).

III. Reasons for Decision

After reviewing the South Manti Timber Salvage FEIS, and examining the issues and effects analysis of the alternatives, I have chosen the Selected Alternative for the following three reasons (A-C):

A. Achievement of the Forest Plan Goals and Objectives

The Manti-La Sal National Forest Land and Resource Management Plan (Forest Plan) identifies goals for the management of the Forest. Goals are concise statements describing a desired condition to be achieved some time in the future. Progress is made toward achieving the goals, and their corresponding desired conditions, through implementation of site-specific projects. Projects are designed to achieve specific goals and move toward desired conditions. The selected alternative was chosen to help achieve specific goals of the Forest Plan as identified in the FEIS (see Chapter One, pages 6-8, Chapter Four, pages 92-98, and Appendix C - Forest Plan Direction).

B. Meeting the Purpose and Need of the Proposal

The purpose and need for this project is to address ecological and economic values affected by spruce beetle activity in the South Manti project area as defined below.

1. Reduce potential for large and intense wildfires across forested areas (with associated environmental affects).

Large, intense wildfires (200 acres or greater, 50% or greater tree mortality, greater than 100 tons/acre of PM-10 emissions, and 50% or greater duff consumption or greater than 2 inches of duff removal) can threaten the health of watersheds and sustainable forest ecosystems. Although insects are a part of the natural cycle, when they are active at epidemic levels they can kill extensive areas of trees. Dead trees represent a fuel source in which a wildland fire could burn. An abundance of dead trees can predispose an area to the occurrence of a large, intense wildland fire - should a fire start under extreme conditions. A large, intense wildland fire can have undesirable effects ranging from a loss of vegetation and wildlife cover to an overall reduction in site productivity and increased soil erosion and instability. Reducing the amount and continuity of fuel represented by the dead spruce trees would reduce the area's vulnerability to a large, intense wildland fires.

Stand-replacement wildland fires occur in spruce-fir forests on a 100-year to 300-year cycle. No substantial wildland fires have occurred within the project area during the last 75 to 100 years. Given epidemic spruce beetle activity across the landscape, and as the dead trees begin to fall, the area will become increasingly predisposed to the occurrence of larger than normal wildland fires during severe drought and fire weather conditions.

Pre-epidemic and current fuel loadings of dead down fuels vary from 10 to 32 tons per acre in the spruce stands. Most spruce trees within the project area are dead or dying due to spruce beetle activity (approximately seventy percent of the spruce trees with a diameter greater than five inches at breast height and ninety percent of spruce trees with a diameter greater than eleven inches at breast height are dead). These dead trees represent an increase in the amount of potential fuel available to burn in a wildland fire. Fuel loadings from 51 to 62 tons per acre are expected in the spruce stands as dead trees fall to the ground by the year 2075. With such extensive tree mortality and eventually higher fuel loadings, there are inherent concerns about the potential for more intense and larger than normal wildland fires.

The Selected Alternative responds to this purpose and need through salvage harvest of 19-25 MMBF of dead and dying spruce trees and associated treatments. Salvage harvest of dead and dying timber in conjunction with post-sale treatments will reduce fuel continuity and aid in wildland fire containment when unfavorable weather conditions exist. The Selected alternative will reduce fire susceptibility and treat fuels as follows: remove dead trees through harvesting on 1,912 to 2,485 acres; whole tree yard an estimated 230-299 acres; lop and scatter 1,639 - 2,131 acres in helicopter yarded areas; jackpot burn 164-213 acres of helicopter yarded areas; and mechanical scarification on 257-334 acres associated with reforestation needs. The Selected Alternative, in combination with previously approved salvage and associated treatments, will further reduce the associated risks of wildland fires within the project area.

2. Facilitate rapid reestablishment of Engelmann spruce through replanting of spruce in Timber Emphasis Units identified in the Forest Plan.

Spruce tree mortality represents a loss of vegetation, biodiversity, and wildlife cover. It also represents the loss of an important seed source for the future. Timber sales can be used as a tool to restore forest ecosystem health. Following timber harvest, site preparation and reforestation efforts help to ensure a future of healthy forests. Trees contribute to the health of the forest and its sustainability. Healthy forests do far more than grow trees for harvest - they provide clean water, wildlife habitat, recreation opportunities, and more.

Epidemic outbreaks of spruce beetles and subsequent extensive spruce mortality are not desirable because it dramatically reduces compositional and structural diversity over a relatively short time. With over 90 percent of the mature spruce in affected stands dead, the character of the remaining stands is changed. The character of affected stands is now less varied and more open. The affected stands now consist mostly of subalpine fir and have a smaller average live tree diameter. The spruce trees that have survived the beetle activity are small and poorly distributed across the landscape. They do not represent an ideal seed source. Vegetation in the affected stands will move from an Engelmann spruce-subalpine fir community, toward a community dominated by subalpine fir, which is the climax species. With treatment to facilitate reestablishment of spruce, the affected spruce stands will take between 30 and 90 years to regenerate Engelmann spruce to full stocking levels. Without treatment to facilitate reestablishment of spruce, it would take 100 to 200 years to return to the affected stands to pre-epidemic stocking and production levels, providing the full range of benefits associated with a healthy forest.

The Selected Alternative responds to this purpose and need through salvage harvest of dead and dying spruce trees, followed by site preparation and reforestation treatments. Reforestation provides a dependable assurance of reestablishment of the spruce component in areas that have experienced extensive mortality. Replanting of spruce assures adequate stocking within 5 years and reduces the recovery time for the stand to return to pre-epidemic stocking and production levels by 60 to 70 years. These reforested areas would mature sooner than other areas and would increase structural and compositional diversity conditions more rapidly with a greater resilience to disturbance, providing an array of benefits represented by a healthy forest.

The Selected Alternative will include reforestation across a total range of 970 to 1,251 acres (219 and 285 acres would be within timber emphasis management areas). Planting will occur on between 332 and 431 acres (82 and 107 acres would be within timber emphasis management areas). Machine scarification is proposed on 257 to 334 acres. Natural reforestation would be prescribed on 137 to 178 acres within timber emphasis management areas. Gopher control treatment may be necessary on 365 to 474 acres. These reforestation efforts, combined with existing reforestation with already approved salvage sales, will increase the genetic diversity and establishment of Engelmann spruce at a faster rate when compared to natural processes.

3. Recover some of the economic value of dead and dying trees.

While timber harvest can be used as a tool to restore forest ecosystem and watershed health as presented in the preceding purpose and need descriptions, it can also contribute to local economies. Recovery of some of the economic value of dead and dying trees and restoration of healthy forests are beneficial to many rural communities and businesses.

Forest roads are an essential part of the transportation system in many rural parts of the country. Forest roads help meet recreation demands, provide economic opportunities by facilitating the transport of products, and provide access for needed management. While the benefits of roads are many, so too are their ecological impacts. Roads not properly built and maintained can do environmental damage. Timber sales can be used as a tool to better manage the road network across the landscape. Old, unneeded roads may be closed or removed while other roads may be maintained or improved through timber sales. These measures provide for improved services, public safety, and environmental protection. Additionally, twenty-five percent of the revenues generated from National Forests are currently returned to states and distributed to counties for schools and county roads - further benefiting the local communities.

About twenty-two percent (5,335 acres) of the project area emphasis is allocated to provide for wood fiber production and utilization (Management Unit TBR - Timber Management Emphasis). Another seventy-eight percent (19,112 acres) is allocated to allow for wood utilization consistent with meeting other resource value requirements (Management Unit RNG - Range Emphasis). Epidemic spruce beetle activity in lands allocated to providing long-term, continuous supplies of timber products is not desirable because it results in extensive tree mortality in a short period of time. While the short-term economic benefits of harvesting dead trees are obvious, the long-term economic benefits of promptly reestablishing a healthy stand of trees are often overlooked. Without treatment to facilitate reestablishment of spruce, the affected stands will take 80 to 140 years to reach a commercial age.

The Selected Alternative responds to this purpose and need through salvage harvest of dead and dying spruce trees (19-25 MMBF), site preparation and reforestation treatments, and road work. The revenue from selling the dead trees is estimated at $475,000.00.

Demands for lumber and other building products remain stable as more people move into Utah and the Western United States and more homes are constructed. Continued competition and demand for sawtimber and houselogs is reasonably foreseeable in the next decade. Reforestation efforts would accelerate maturation of the affected spruce stands, thereby better ensuring long-term productivity and potential economic benefits.

C. Response to Issues Raised

The following discussion explains how I considered the FEIS issues in making my decisions. The discussions are presented by resource issues as described in Chapter 2, pages 2-6, and Chapter 4 of the FEIS, and within the project record:

- Air Quality
  The Selected Alternative will comply with State air quality requirements and the Federal conformity rule (see Chapter Four, pages 2-4).

- Land Stability
  Mortality of spruce trees in the project area is causing a decrease in land stability and an increase in the potential for landslides. The removal of dead and dying trees will not, in itself, affect land stability. Road construction, road reconstruction, and staging areas in unstable and moderately unstable areas could induce local landslides. However, such facilities will be designed to minimize landslide risk. Reforestation by planting of spruce could improve land stability with time (see Chapter Four, pages 4-8).

- Soils
  The Selected Alternative will disturb soil. Ground-based yarding will result in exposed soil ranging from 15 to 20 percent of the harvested area. Cable yarding and helicopter yarding would result in exposed soil over 3 to 8 percent of the harvested area. It is estimated that soil erosion will range from 0.1 to 2 tons per acre per year over the ground-based logged areas, and will decrease over time as vegetation becomes established. Soil erosion from cable yarding and helicopter yarding will be considerably less than that of ground-based yarding.

  Road reconstruction, maintenance, and decommissioning in the Selected Alternative will improve soil conditions and reduce erosion concerns (see Chapter Four, pages 8-11).

- Water Resources
  Changes to sediment loads in the streams will be small and not measurable. Due to large natural variations in sediment loads, the small anticipated changes in sediment will not adversely affect the beneficial uses of water. Temporary increases in sedimentation from ground disturbance associated with logging activities would be short term (1 to 3 years). Temporary increases in sedimentation will be expected from temporary road construction, reconstruction, maintenance, and decommissioning. Over the long-term, road reconstruction, maintenance, and decommissioning associated with the Selected alternative will result in reductions in sediment. The application of best management practices will reduce potential impacts to soil and water resources.

  No harvesting or mechanical entry (skidding, landings, etc.) will be permitted within 100 feet of each side of perennial streams, seeps, lakes, reservoirs, or wetlands. Except at approved crossing locations, no harvest will be allowed within 35 feet of an intermittent stream channel, and no mechanical entry will be allowed within 50 feet.

  There are no known threatened, endangered, proposed fish or amphibian species within the project area. There will be no effect to any fish or amphibian-listed species from implementation of the Selected Alternative. Aquatic habitat will not be adversely affected (see Chapter Four, pages 11-23).

- Vegetation Resources
  Epidemic spruce beetle activity has killed the majority of the spruce trees in the area. This has reduced stand development, growth, and production levels in affected areas. Without treatment, it will take 30 to 90 years for adequate natural reforestation of affected spruce stands. With treatment, reforestation will be assured in less time (5 years). Without treatment, it will take 100 to 200 years to return affected spruce stands to pre-epidemic stocking levels. With treatment, return to pre-epidemic stocking and production levels will be expected in less time (60 to 70 years sooner than untreated areas). Additionally, the gene pool will be supplemented by planting spruce trees (see Chapter Four, pages 23-32).

  Rangeland vegetative trends and production will increase with or without treatment. The rate of improvement will be greater with treatment than without. Weeds will occur with or without treatment. The risk and rate of weed expansion is greater with treatment because of ground disturbance and increased activity in the area. However, weed populations will be treated in accordance with existing decisions and agreements.

  No endangered plant species exist within the project area. One threatened plant species exists within the project area (Heliotrope milkvetch). There will be "no effect" to Heliotrope milkvetch from implementation of the Selected Alternative (see Chapter Four, pages 30-32, and revised Biological Assessment).

Four sensitive plant species occur within the project area (Carrington daisie, Arizona willow, Musinea groundsel, Maguire campion). There will be "no impact" to Carrington daisie or Arizona willow from implementation of any of the alternatives. Use of the South Camel gravel source for road work and maintenance "may impact" individual Maguire campion and Musinea groundsel plants and/or their habitat but will not likely contribute to trend toward for Federal listing or loss of viability to the population or species. This "may impact" determination for Maguire campion or Musinea groundsel is only applicable to use of the gravel at the South Camel gravel source. Other project activities will have a "no effect" determination for these species (see Chapter Four, pages 30-32, and revised Biological Evaluation).

- Fuels/Fire
  The abundance of dead spruce trees increases wildland fire concerns should a fire start under extreme fire conditions. Treatments will break up the continuity of the fuels and increase the probability of containing fires and reducing its associated effects (see Chapter Four, pages 32-38).

- Wildlife Resources
  The Selected Alternative will not contribute to a loss of population viability (see Chapter Four, pages 38-52, and revised Biological Assessment and Evaluation).

  Management Indicator Species
  Elk and Deer: Hiding and security cover for elk and deer has been reduced as a result of the spruce mortality. During implementation of the Selected Alternative, big game cover will again be temporarily reduced proportional to the acreage treated and amount of road work. However, after implementation, reforestation will provide hiding cover in 15 to 20 years and habitat effectiveness will increased by the decommissioning of National Forest System Roads (NFSR) and unclassified roads and trails (see Chapter Four, pages 39-41).

  Northern Goshawk: The Selected Alternative "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species". Impacts from the action alternatives include potential indirect impact to prey species and project activities within suitable nesting habitat. Implementation will affect approximately 560 acres of suitable nesting habitat. There are currently no known nests within any harvest units see Chapter Four, pages 45-46).

  Golden Eagle: Since the beetle epidemic has already changed the character of the spruce stands to one of a more open habitat, the Selected Alternative will not notably impact foraging habitat for eagles (see Chapter Four, pages 42-43).

  Tree Cavity Dependent Species
  Implementation of the Selected Alternative will continue to provide tree cavity habitat. Within treatment areas, the retention of non-spruce trees and 300 snags per 100 acres will provide for snag maintenance and snag recruitment over time (see attached Project Design Features). Over 6,000 acres of spruce-fir habitat will not be directly affected by implementation of this alternative (see Chapter Four, page 44).

  Proposed, Threatened, and Endangered Species (see Chapter Four, page 44, and revised Biological Assessment)
  Canada Lynx (Threatened): The selected alternative "may affect individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species". Adverse habitat impacts from the action alternatives will be as a result of increased human activities and potentially competing predators in suitable winter habitat. However, there has never been a sighting of lynx in the project area. Beneficial habitat impacts from the action alternatives include an improvement in the amount and quality of suitable prey habitat as a result of reforestation.

  Bald Eagle (Threatened): The Selected Alternative "may affect individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species". Impacts from the action alternatives include possible disturbance from helicopter activity during eagle migration through the area.

Southwest Willow Flycatcher (Endangered): There would be "no effect" to Southwest willow flycatcher from implementation of the selected alternative.

Sensitive Species (see Chapter Four, pages 45-49, and revised Biological Evaluation)
Peregrine Falcon: There will be "no impact" to peregrine falcon from implementation of the Selected Alternative.

Northern Goshawk: The Selected Alternative "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species". Impacts from the action alternatives include potential indirect impact to prey species and project activities within suitable nesting habitat. Implementation will affect approximately 560 acres of suitable nesting habitat. There are currently no known nests within any harvest units.

Spotted and Townsend's Big-eared Bat: The Selected Alternative "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species".

Flammulated Owl: The selected alternative "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species". Impacts from implementation include possible avoidance of treated areas by flammulated owls.

Three-toed Woodpecker: The Selected Alternative "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species". Impacts from implementation include removal of dead trees, which represent a food source for the woodpecker. However, snag retention requirements will allow the woodpecker to use the treated areas.

- Transportation
  Roads and trails in the area are used for a variety of purposes. The Selected Alternative includes: 9.2 miles of NFSR reconstruction; 0.5 miles of temporary road construction followed by decommissioning; and 8.8 miles of unclassified, motorized trail and roads to be decommissioned.

  Forest visitors can expect minor travel delays due to reconstruction of National Forest System Roads. However, this reconstruction will provide safer and more dependable access. To lessen potential project impacts upon Forest visitors, no hauling will be allowed on weekends, holidays, the day before opening day of deer and elk general rifle seasons, as well as the opening first two days of the seasons.

  Implementation of the Selected Alternative, in combination with previous work completed, will reduce the motorized access from 90 to 70 miles of roads and trail, will result in a motorized network density of 1.8 miles per square mile. The availability of funding to complete this work appears to be very good in fiscal years 2004 and 2005 (see Chapter Four, pages 38-52).

- Range Allotment and Improvements
  The Selected Alternative will impact Permittees. Livestock may temporarily be prohibited from harvest areas to assure adequate reforestation. Such a prohibition could last from 7 to 20 years. This decreased use of suitable rangeland may or may not affect herd size depending upon possible variations in reforestation protection methods, fencing, herding, grazing schedules, or methods worked out with the permittee (see Chapter Four, pages 56-58).

  Short-term impacts to range improvements may occur from project activities. However, project-caused damages shall be repaired or the improvement would be replaced.

- Visual Landscape
  The visual landscape will be affected by timber harvest and roading. In general, increased timber harvest and roading is likely to reduce visual quality of an area. However, the location and characteristics of these activities in context with the existing landscape plays a defining role in determining the overall visual effect. When management-induced changes to the landscape contrast with the existing setting, impacts to the visual resource are the greatest. When management activities blend with the existing landscape setting, they are less visually evident. The Selected Alternative will meet the Visual Quality Objectives within the project area (see Chapter Four, pages 58-61).

- Undeveloped Character
  Undeveloped character of the area will be affected by timber harvest and roading. In general, increased timber harvest and roading is likely to reduce undeveloped character. Since helicopter yarding typically results in less on-the-ground impacts than ground-based yarding, it will be expected to have less impact to undeveloped character.

  Implementation of the Selected Alternative, with previous work completed, will reduce the motorized access from 90 to 70 miles of roads and trails, with a motorized network density of 1.8 miles per square mile. The reduced access and rehabilitation of an unnatural feature, roads and trails, will positively affect undeveloped character.

  The overall undeveloped character of the area is not expected to notably change because the types of activities, facilities, recreational experiences, and scenery available will remain essentially the same for all alternatives due to developments and activities that already exist (see Chapter Three, pages 42-45, and Chapter Four, pages 61-65).

  The Selected Alternative will harvest approximately 940 -1,313 acres of undeveloped areas, primarily by helicopter, in three unroaded areas. Since NFSR #50333 within the unroaded area contiguous to the White Mountain inventoried roadless area has been decommissioned per the decision before it was vacated, the unroaded area has increased in size from 4,300 acres to 4,490 acres (see Chapter Four, pages 61-65).

- Cultural Resources
  Access and ground disturbance have the potential to affect cultural resources. However, following the existing Memorandum of Understanding will protect known and subsequently discovered cultural resources. In accordance with the National Historic Preservation Act, a "no effect" determination has been made for all alternatives (see Chapter Four, pages 65-68).

- Economics
  Costs and economic analysis are displayed in Chapter Four, pages 68-73.

  Areas are identified for harvest based on technical operability, environmental acceptability, and the need to remove dead and dying spruce trees as a step in ecosystem rehabilitation. The actual amount of harvest, within modeled parameters, depends upon market conditions, which vary through time and by the specifics associated with the authorization instrument (e.g. timber sale contract, service contract, etc.). Increased amounts of helicopter yarding reduce the likelihood that all areas identified for treatment may in fact be harvested.

  The selling value is expected to be $25/MBF. When using 19 MMBF, the Selected Alternative would be expected to be valued at $475,000.00. Twenty-five percent of these receipts would go to the associated Counties.

Proportional to the amount of timber harvested, all action alternatives will contribute to employment and income opportunities (i.e. timber sale preparation, logging operations, trucking, timber processing, and post-sale requirements). Economic benefits to primary and secondary businesses will also be expected.

Long-term economic benefits will also be expected from the action alternatives. Reforestation efforts will accelerate maturation of the treated spruce stands.

- Energy
  Energy consumption is represented by the use of petroleum products to run project-related equipment. Energy output is represented by the direct fuel value of the harvested timber. All action alternatives will consume fuel. Figure 4-31 in Chapter Four displays the direct and indirect effects to energy on page 74. The Selected Alternative will be within the ranges displayed.

- Roadless Character
  With the Selected Alternative, no roads or harvesting will be completed within any of the Inventoried Roadless Areas (IRA) as described in RARE II or the Forest Plan. The effects of timber harvest and associated activities are analyzed in Chapter Four, pages 74-85. Consequently, there will not be any direct effects to the roadless characteristics of the IRAs.

IV. PUBLIC INVOLVEMENT

A "Notice of Intent to Prepare an Environmental Impact Statement" was printed in the Federal Register on February 17, 1998. Comments on the proposal were requested through newspaper notices in Carbon, Emery, and Sanpete Counties, Utah. Additional public notification was completed through the Forest's *Schedule of Proposed Actions* and by mailing of individual letters. On October 5, 1998, a public field trip was held to explain the proposed action to interested publics. Notification of a Draft Environmental Impact Statement (DEIS) was printed in the Federal Register on May 7, 1999. Legal notices were published notifying the public of the availability of the DEIS and that comments were being sought (approximately 200 copies were mailed to interested parties). Based upon a request, the comment period to the DEIS was extended until July 21, 1999, to facilitate additional on-the-ground public review of the area. A public field trip was held on July 13, 1999, to explain and answer questions pertaining to the alternatives. 97 comment letters to the DEIS were received. The public comments received and Forest Service response to these comments is documented in Appendix B of the FEIS for South Manti Timber Salvage.

The Record of Decision dated May 22, 2000, was appealed to the Regional Forester by Utah Environmental Congress and Forest Guardians. The Regional Forester affirmed the decision in letter dated August 25, 2000. Subsequently, the decision was litigated. On March 14, 2002, U.S. District Court Judge Dale A. Kimball issued an adverse opinion on the South Manti Timber Salvage project and the decision was vacated (project file). On October 3, 2003, a revised NOI was published in the Federal Register revising the time frame and the responsible official. Letters were sent out to those that commented on the DEIS and Public Notice was published in the paper of record inviting additional comments and suggestions on the issues related to the proposed action and the area being analyzed. Seven letters were received and summarized with their corresponding Forest Service responses attached to this decision.

Overall, the issue of entering Inventoried Roadless Areas (IRA) was the most commonly addressed issue raised in the public involvement process. Comments were divided as to whether or not to treat within IRAs. New comments have been raised relative to significant issues. The issues raised were considered and addressed in the response to comments attached to this decision.

V. ALTERNATIVES CONSIDERED

A. Alternatives Considered, But Not Given Detailed Study

Conceptual alternatives were explored in refining the alternatives to be considered in detail. Alternatives considered but not carried into the final analysis are summarized as follows (see section 2.3 of FEIS for detailed descriptions):

- Harvesting of spruce trees beyond those presented in the proposed action were not given detailed study.
- Road construction, permanent and temporary, in RARE II Inventoried Roadless Areas were not given detailed study.
- Under current conditions, prescribed fire without prior treatment such as timber harvest to reduce the fuel loading was not given detailed study.
- Aspen stand management was not given detailed study.
- An alternative using cable yarding systems on slopes greater than 40 percent instead of helicopter was not given detailed study.
- Reclassification of suitable timberland was not given detailed study.
- Based upon additional field review and public comment and the interim roads rule, the original proposal of February 17, 1998, has been modified as presented in Alternative 2.
- Based upon further review of draft alternatives 3 and 4; these alternatives were dropped from further review.

B. Alternatives Considered in Detail, But Not Selected

A no action alternative and three action alternatives were considered in detail. These alternatives represent a reasonable range of alternatives for this project that sharply define the significant issue, impacts to roadless character. The alternatives considered in detail are summarized in the Executive Summary within the FEIS.

Alternative 1 - Alternative 1, the no action alternative, proposes no new activities to be initiated in the project area from this planning effort at this time.

Alternative 2 - Based upon additional field review and public comment, Alternative 2 is a modification of the original proposal (February 17, 1998) and incorporates the Agency's final interim rule. Alternative 2 represents the intent of the original proposal. This alternative enters 3 Rare II and 1 Forest Plan Inventoried Roadless Areas.

- Alternative 2 proposes salvage harvesting of 32-41 MMBF of dead and dying spruce trees across 6,349 acres. Past experience indicates that 50 to 65 percent of the treatment area is likely to be harvested (3,174 to 4,127 acres). Logging systems planned are tractor, helicopter, and cable. It is estimated that this timber would be removed in 6-8 years with multiple sales.

- Estimated road work associated with the proposal as follows: construction of 1.1 miles of NFSR; reconstruction of 11.0 miles of NFSR; and 0.5 miles of temporary road (would not be open to public travel and reclaimed after use) to meet current and future resource management needs in the area. 1.9 miles of system roads would be put into maintenance level 1 (closed to public travel) after post sale activities, which include the 1.1 miles of constructed road in the Heliotrope area.

- 4.1 miles of NFSR and 19.3 miles of unclassified roads would be reclaimed that are no longer needed for long term management of the National Forest resources.

- Planting Engelmann spruce on 551-716 acres, mechanical scarification for site preparation on 426-554 acres, and naturally reforests 918-1,198 acres. Gopher control for reforestation protection may take place on 606-788 acres.

- Treat harvest generated and existing fuels through various methods as follows: whole tree yard tractor yarding units on an estimated 437-568 acres; lop and scatter 2,696 - 3,505 acres of the helicopter yarding units; and jackpot burn 10% of the helicopter yarding units (270 - 351 acres).

Alternative 3 - Alternative 3 proposes salvage harvest as Alternative 2 without constructing roads in Inventoried Roadless Areas (RARE II and Forest Plan) or using ground-based log yarding equipment in such areas.

- Alternative 3 proposes salvage harvesting of 32-41 MMBF of dead and dying spruce trees across 6,349acres. Past experience indicates that 50 to 65 percent of the treatment area is likely to be harvested (3,174 to 4,127 acres). Logging systems planned are tractor, helicopter, and cable. It is estimated that this timber would be removed in 6-8 years with multiple sales.

- Estimated road work associated with the proposal as follows: reconstruction of 10.8 miles of NFSR; and 0.5 miles of temporary road (would not be open to public travel and reclaimed after use) to meet current and future resource management needs in the area. 0.8 miles of system roads would be put into maintenance level 1 (closed to public travel) after post sale activities.

- 4.1 miles of NFSR and 19.3 miles of unclassified roads would be reclaimed that are no longer needed for long term management of the National Forest resources.

- Planting Engelmann spruce on 720-936 acres, mechanical scarification for site preparation on 257-334 acres, and naturally reforests 749-973 acres. Gopher control for reforestation protection may take place on 792-1,030 acres.

- Treat harvest generated and existing fuels through various methods as follows: whole tree yard tractor yarding units on an estimated 230-299 acres; lop and scatter 2,903 - 3,773 acres of the helicopter yarding units; and jackpot burn 10% of the helicopter yarding units (290 - 377 acres).

VI. Findings Required by Other Laws and Regulations

After consideration of the discussion of environmental consequences (FEIS, Chapter Four), I have determined that 4, with modifications is consistent with other laws and regulations, as outlined in the FEIS. Detailed discussions of laws and regulations are provided in Chapter Four (pages 86-100) and within the Appendices.

A. Consistency with Forest Plan Direction

Regulations and Requirements - All resource plans are to be consistent with the Forest Plan [16 U.S.C. 1604 (i)]. The Forest Plan guides all natural resource management activities [36 Code of Federal Regulations (CFR) 219.1 (b)]. All administrative activities affecting the National Forest must be based on the Forest Plan [36 CFR 219.10 (e)].

The Forest Plan was approved on November 5, 1986. The FEIS for the South Manti Timber Salvage tiers to the Forest Plan. The Forest Plan provides for the overall guidance for management activities by specifying goals and objectives, desired future conditions, management direction, and standards and guidelines.

The features of the Selected Alternative have been evaluated for consistency with the Forest Plan and I have determined that the Selected Alternative is in compliance with the Forest Plan. No Forest Plan amendments will be needed to implement this project.

B. Consistency with the National Forest Management Act

The Selected Alternative is consistent with the National Forest Management Act (NFMA) of 1976 in meeting the management requirements detailed in implementing regulations of 36 CFR 219.27. The management prescriptions provide for protection of soil, water, air, wildlife, fishery resources, and other multiple uses. Additional discussion of NFMA consistency can be found in Appendix I of the FEIS.

C. Consistency with Other Laws and Regulations

Clean Water Act - The Clean Water Act requires each state to implement its own water quality standards. The State of Utah's Water Quality Anti-degradation Policy requires maintenance of water quality to protect existing instream beneficial uses on streams designated as Category 1 High Quality Waters. All surface waters geographically located within the outer boundaries of the Manti-La Sal National Forest, whether on private or public lands are designated as High Quality Waters (Category 1). Water quality is to be maintained with little or no degradation. New point source discharges are prohibited; nonpoint sources will be controlled to the extent feasible through implementation of Best Management Practices (BMP's) or regulatory programs (Utah Division of Water Quality 1997). The State of Utah and the Forest Service have agreed through a 1993 Memorandum of Understanding to use Forest Plan Standards and Guidelines, and the Forest Service Handbook (FSH) 2509.22 Soil and Water Conservation Practices (SWCP's) as the BMP's. The use of SWCP's as BMP's meet the water quality protection elements of Utah's Nonpoint Source Management Plan.

The Beneficial uses and high quality water in the streams in the project area would be maintained during and following project implementation through proper implementation of BMP's (Appendix D of the FEIS) and Project Design Features as attached to this decision.

Executive Order 11990 of May, 1977 - This requires the Forest Service to take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In compliance with this order, Forest Service direction requires that an analysis be completed to determine whether adverse impacts would result.

The locations of the wetlands in the project area were identified. Impacts will be prevented through implementation of BMP's (Appendix D in the FEIS) and Project Design Features as attached to this decision. All of the action alternatives would be compliant with Executive Order 11990.

Executive Order 11988 of May, 1997 - This order requires the Forest Service to provide leadership and to take action to (1) minimize adverse impacts associated with occupancy and modification of floodplains and reduce risks of flood loss, (2) minimize impacts of floods on human safety, health, and welfare, and (3) restore and preserve the natural and beneficial values served by flood plains. In compliance with this order, the Forest Service requires an analysis be completed to determine the significance of proposed actions in terms of flood plains.

Impacts from adjacent or nearby areas will be prevented through implementation of the BMP's (Appendix D of the FEIS) and Project Design Features as attached to this decision. Therefore, any of the proposed alternatives will be in compliance with Executive Order 11988.

Endangered Species Act of 1973, as Amended - Based upon the effects analysis in Chapter Four, the Biological Assessment, and concurrence with the US Fish and Wildlife Service, it has been determined that there would be no adverse effects to populations of threatened, endangered, or proposed wildlife, fish, or plant species relative to the Selected Alternative.

Migratory Bird Treat Act of 1918 - The Selected Alternative will retain viable populations of native species with the implementation of Project Design Features attached to this decision.

Executive Order 13186 of January, 2001 – Selected Alternative will retain viable populations of native species with the implementation of Project Design Features attached to this decision.

American Antiquities Act of 1906 and Historic Preservation Act of 1966 - Based upon the effects analysis in Chapter Four and the Memorandum of Understanding with the Utah State Historic Preservation, it has been determined that there will be no measurable effects to any Historic Properties relative to any of the alternatives. Any cultural properties discovered during project activities will be avoided, protected, or mitigated (see attached Project Design Features).

Clean Air Act, as Amended in 1977 - Based upon the effects analysis in Chapter Four, it has been determined that there will be no measurable effects to air quality and that all alternatives would comply with State air quality requirements and the Clean Air Act.

Forest and Rangeland Renewable Resources Planning Act of 1974 - Section 10, Part C of this act, under Transportation System, states that "...any road constructed on National Forest System Lands in connection with timber contract permits shall be designed with the goal of reestablishing vegetative cover on the roadway and areas where the vegetative cover has been disturbed by construction of the road, within 10 years after the termination of the contract, permit, or lease either through artificial or natural means." All the alternatives would comply with this act through implementation of the BMP's (Appendix D) and the attached Project Design Features.

Civil Rights - Based upon comments received during scoping and the comment period for the DEIS, no conflicts have been identified with other Federal, State, or local agencies or with Native Americans, other minorities, women, or civil rights of any United States citizen.

Secretary of Agriculture Memorandum, 1827 - The Selected Alternative is in conformance for prime farmland, rangeland, and forest land.

Energy - The Selected Alternative would not have unusual energy requirements.

Mining - The Selected Alternative would have no effects on the availability of lands for mining, under federal mining laws and regulations.

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." - This order requires the Forest Service to make achieving environmental justice part of its mission by identifying and addressing as appropriate, disproportionately high and adverse health effects, of its programs, policies, and activities on minority populations and low-income populations in the United States and territorial possessions. In compliance with this executive order, the Manti-La Sal National Forest, through intensive scoping and public involvement attempted to identify interested and affected parties, including minority and low-income populations for this project. The Forest defined a range of alternatives to be evaluated and analyzed the consequences of the alternatives on the quality of human environment. A comment period was held for 45 days for the DEIS following the U.S. Environmental Protection Agency's publication of the Notice of Availability in the Federal Register.

The land described in this analysis is managed by the USDA Forest Service as the Manti-La Sal National Forest. The decision for this document will not amend or preclude any existing private or treaty rights in the South Manti project area. No minority or low-income populations were identified during the pubic involvement within communities near or immediately surrounding the South Manti project area.

VII. ENVIRONMENTALLY PREFERRED ALTERNATIVE

Regulations implementing the National Environmental Policy Act (NEPA) require agencies to specify "the alternative or alternatives which were considered to be environmentally preferable" [40 CFR 1505.2(b)]. Forest Service policy further defines the "environmentally preferable alternative" as "an alternative that meets the goals of Section 101 of the NEPA..." (FSH 1909.15). Section 101 of the NEPA describes national environmental policy, calling on federal, state, and local governments and the public to "create and maintain conditions under which man and nature can exist in productive harmony." Section 101 further defines this policy in six broad goals, to:

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health, or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible, an environment which supports diversity and a variety of individual choice;

(5) achieve a balance between population and resource use which permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

All of the action alternatives meet these six goals to varying degrees. However, based upon the description of alternatives and associated analysis detailed in the FEIS, I believe that the Selected Alternative (Alternative #4) best meets the goals of Section 101, and is therefore the environmentally preferable alternative for this proposed federal action.

VIII. IMPLEMENTATION DATE

This project cannot be implemented until 15 days after the resolution of any appeal. If no appeal is received, the project may be implemented five days after the end of the appeal period.

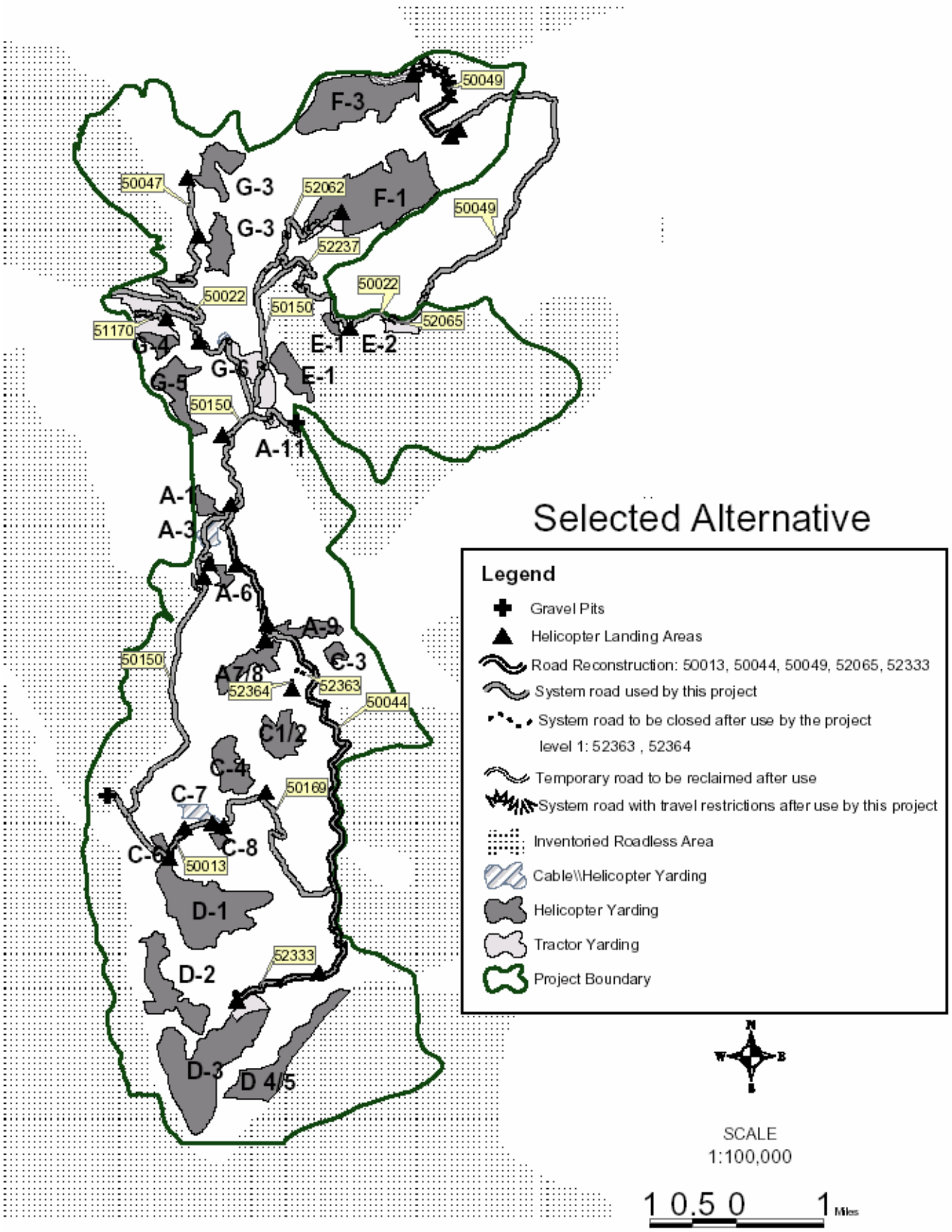
IX. ADMINISTRATIVE REVIEW

This decision is subject to appeal pursuant to 36 CFR 215.7. Notice of appeal must be postmarked or received by the Appeal Deciding Officer within 45 days of the publication of legal notice in the *Sun Advocate*. The Appeal Deciding Officer is: Regional Forester, Intermountain Region, 324-25th Street, Ogden, UT 84401. Appeals must meet the content requirements of 36 CFR 215.14.

For further information, contact Rod Player, Manti-La Sal National Forest, 599 West Price River Drive, Price, Utah 84501, or phone (435) 637-2817.

/s/ Alice B. Carlton
ALICE B. CARLTON
Forest Supervisor

16 June 2004
Date


Selected Alternative
Legend
Gravel Pits
Helicopter Landing Areas
Road Reconstruction: 50013, 50044, 50049, 52065, 52333
System road used by this project
System road to be closed after use by the project
level 1: 52363 , 52364
Temporary road to be reclaimed after use
System road with travel restrictions after use by this project
Inventoried Roadless Area
Cable\\Helicopter Yarding
Helicopter Yarding
Tractor Yarding
Project Boundary
SCALE
1:100,000
1 0.5 0 1 Miles
F-3
F-1
G-3
G-4
G-5
G-6
E-1
E-2
A-11
A-1
A-3
A-6
A-9
A7/8
C-3
C1/2
C-4
C-7
C-8
C-6
D-1
D-2
D-3
D 4/5
50049
50047
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52333

Response to Comments

The comments presented are excerpts indicative of the overall comment. Some comments were of general nature and did not warrant a response (e.g. restatement of proposal, expression of an favor or disfavor of the proposal). Such comments are correspondingly not further addressed. Each comment has a narrative response. Six letters were received, reviewed, and responded to as follows:

COMMENTERS: 1. UTAH FARM BUREAU FEDERATION
2. FISH AND WILDLIFE SERVICE

Comment: None

Response: None

COMMENTERS: 3. VERNAL RAWLEY
4. SAN JUAN COUNTY
5. EMERY COUNTY
6. CARBON COUNTY PLANNING AND BUILDING DEPARTMENTS

Comment: Support of salvage efforts.

Response: Thank-you for your support.

COMMENTER: UTAH ENVIRONMENTAL CONGRESS

Comment: …"Agenices shall prepare supplements to either draft or final environmental impact statements if… there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts".

Response: Council on Environmental Quality (CEQ) regulations 1503.4 deal with response to comments on a Draft Environmntal Impact Statement (EIS). In this instance, the Forest Service requested comments to the Final EIS, not a Draft EIS. Consequently, the CEQ regulations do not address comments to a Final EIS. An interdisciplinary team has reviewed UEC's comments and reanalyzed the Final EIS for new significant issues. The Forest Service team met (project file) to review the existing document relative to section 18 of the Forest Service NEPA Handbook and was not able to find any new significant issues or significant changes. The Final EIS identifies impacts to Roadless Character as the only significant issue (FEIS pages 2-2 and 2-6), and hence, the rationale as to why this document is an EIS. This issue has been resolved by the fact that the Selected Alternative does not enter any of the Inventoried Roadless Areas as described in RARE II or the Forest Plan. UEC's issues to the Final EIS have been addressed in response to comments, an errata sheet, updating the project file, or they were dismissed as being beyond the scope of this analysis as addressed in the following specific comments and responses.

Comment: Recent Peer-Reviewed Scientific Literature Conflicts with assumptions and analysis found in the South Manti FEIS.

Response: UEC contends that the article published in the journal Ecology, "Interactions between fire and spruce beetles in a subalpine Rocky Mountain forest landscape" contradicts assumptions in the South Manti EIS relative to Purpose and Need #1. In short, the statement by UEC that fire risk is not increased by spruce beetle mortality is taken out of context with both the article and the EIS's Purpose and Need. The Purpose and Need statement (South Manti FEIS ,Pg. 1-6) explains that increased fuel loading may predispose an area to the occurrence of a "large, intense [or severe] wildland fire – should a fire start under extreme conditions". The concern, then, is not that a fire may occur more frequently (increased "fire density") under heavy fuel conditions, but rather that any fire that does start may grow in size, intensity and severity due to the large fuel accumulations. In fact, the article cited by UEC goes on to state that "[o]ur analysis is based on the variable "fire density" and thus focuses on the number of observed fires rather than size or severity of fires." (pg. 369)

The Purpose and Need continues by stating on Page 1-6; "Stand replacement wildland fires occur in spruce-fir forests on a 100-year to 300-year cycle. No substantial wildland fires have occurred within the project area during the last 75 to 100 years. Given epidemic spruce beetle activity across the landscape, and as dead trees begin to fall, the area will become increasingly predisposed to the occurrence of larger than normal wildland fires during severe drought and fire weather conditions**.**"

Continuing from Purpose and Need #1, page 1-7; "The proposed action responds to this purpose and need through salvage harvest of dead and dying spruce trees and associated treatments. Salvage harvest of dead and dying timber in conjunction with post-sale treatments will reduce fuel continuity and aid in wildland fire containment when unfavorable weather conditions exist."

Quoting from the article cited by UEC: "Although no increase in fire density followed the 1940s spruce beetle outbreak, potentially the large quantity of standing dead fuels might be expected to contribute to more intense and widespread fire in the affected stands, especially in comparison with younger stands lacking large numbers of large, standing dead trees (Despain and Sellers 1977). However, contingencies of fire-promoting weather, ignition sources, and fire suppression activities may determine whether such potential interactions are realized. For example, during the second half of the 20th century, either weather conditions or suppression activities may have prevented large fires from developing in the study area. Potentially, the intensity and spread of the ca. 1879 fires were aided by exceptionally favorable fuel conditions and weather as well as by human ignition sources. The widespread fires of the late 1800s in our study area followed major spruce beetle outbreaks in the mid 19th century that were comparable in extent and intensity to the 1940s outbreak (Baker and Veblen 1990, Veblen et al. 1991). These outbreaks would have left abundant dead fuels for many decades. The ca. 1879 fires also coincided with severe droughts in the Colorado Rockies in the 1880s (see Cook et al. 1998 [available online]) during which large areas of subalpine forest burned in our study area…".

We believe the above-cited paragraph directly and specifically supports, rather than refutes, Purpose and Need #1. Further, we believe that Purpose and Need #1 is still valid and that recent literature supports, rather than conflicts with, the stated need, and that it is as valid today as it was when the original decision was signed in 2000.

We also believe that the appeal points raised by UEC, and raised again through inclusion in their latest letter regarding the South Manti EIS, are adequately addressed in the response to Appeal Issue 1A.

Bebi, P., D. Kulakowski, and T.T. Veblen. 2003. Interactions between fire and spruce beetles in a subalpine Rocky Mountain forest landscape. Ecology 84(2): 362-371. Ecological Society of America

Comment: Potential of proposed action to propagate additional spikes in the beetle population.

Response: Since 1992, aerial and ground monitoring of the project area by Forest Pest Management specialists and Forest personnel have not shown that spruce beetle activity has increased as a result of previous harvest operations on the Wasatch Plateau. Previous harvest activities are primarily salvage/sanitation operations to remove dead and infested spruce. Less than 5 percent of the trees within the harvest program were uninfested susceptible green spruce. Although a minor amount of green slash was produced as a result of these activities, green slash treatments that included lopping and scattering suitable host material mitigated spruce beetle development in the residual slash. Green slash created at landings was piled and burned.

The South Manti project is a salvage opertion that removes the dead and any residual infested trees. Within the project area, the majority of the susceptible spruce component (>90 percent) has been killed as a result of the spruce beetle epidemic. The proposed treatment will not contribute to spruce beetle population increases. The slash created by removing dead and any residual infested host trees produces slash that is too dry to support spruce beetle development. This residual slash is not susceptible to attacks by adult beetles.

UEC cites issues raised with spruce selection harvests on other Forests. Thinning treatments in spruce stands where abundant green susceptible slash may be produced is often treated using one or more of the following slash treatments; lop and scatter, pile and burn, and removing the larger diameter pieces from the site. Although published literature indicates spruce beetle populations can increase as a result of logging activities, forest health specialists work closely with Forest staff to develop treatments to mitigate spruce beetle susceptible slash.

Also, see response 80-m, Appendix B, page B-26 of the FEIS.

Comment: The South Manti FEIS Relies on Stale Scientific Evidence

Response: The South Manti FEIS Appendix J includes the Sensitive Species Biological Evaluation for sensitive plant and animal species (pages J-1 thru J-9) and the Biological Assessment for federally listed plant and animal species (pages J-11 thru J-21). The Forest Service botanist and biologists approved both of these documents in late February 2000.

The Biological Assessment (BA), Biological Evaluation (BE), and Wildlife Report have been revised to reflect recent information on threatened, endangered, sensitive species, management indicator species, and other species of interest. In addition, species have been added and removed from several of these lists since the original BA, BE and Wildlife Report were completed. Refer to the revised BA, BE and wildlife report for additional information.

Comment: Goshawk Amendment

Response: The South Manti FEIS did include information from the Graham et al. 1999, "The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations". This document is referred to on page 4-45 of the FEIS. In addition, this document was used in the development of Utah National Forests et al. 1998, "Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah" and "Utah Northern Goshawk Forest Plan Amendment", which was signed on April 14, 2000. The Northern Goshawk Forest Plan Amendment is also referenced on page 4-46 of the FEIS. The Sensitive Species Biological Evaluation for the South Manti Timber Salvage Sales (Appendix J of the FEIS) also includes a reference to the Forest Plan Amendment April 14, 2000 on page J-5. FEIS Appendix D, Project Design Features also includes information on how the Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah will be followed, which also complies with the Utah Northern Goshawk Forest Plan Amendment signed on April 14, 2000, both of which incorporated the information from Graham et al. 1999. The project design features on page D-7 also state that the implementation strategies are consistent and comply with the Utah Northern Goshawk, Forest Plan Amendment signed on April 14, 2000.

Also, the attached Project Design Features state that new nesting surveys "will be conducted in areas with suitable habitat the year prior to offering each sale and appropriate changes made if new nesting territories are found."

The UEC letter comments that the South Manti FEIS states that the Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Northern Utah was referred to as a 1999 document on page 3-36. The document was dated 1998. There was an error in the FEIS, please refer to the Errata sheet.

The Manti-La Sal has been monitoring known goshawk nests and surveying for additional nests in suitable habitat in accordance with the Northern Goshawk Forest Plan Amendment.

Comment: Forest Plan Management Indicator Species MIS amendment is currently under administrative appeal.

Response: The June 2003 decision (USDA Forest Service 2003) to amend the Manti-La Sal Forest Plan, which replaced the blue grouse as a Management Indicator Species (MIS) with the northern goshawk, was administratively appealed in July 2003 (Appeals #03-04-00-0054 and #03-04-00-0059). On January 13, 2004 the Intermountain Region Deputy Regional Forester Norbert Kulesza affirmed the decision by Acting Manti-La Sal Forest Supervisor, Melissa Blackwell, to modify the MIS for the forest (USDA Forest Service 2004).

Comment: Trend of the Deer population

Response: The Wildlife Report for the South Manti project, which addresses Management Indicator Species, has been revised to reflect recent information. Recent trends in the mule deer population have been incorporated into the revised Wildlife Report.

The FEIS stated, “hiding/security cover is the primary habitat provided by the stands of trees within the project area… However, the function of the conifer trees has decreased due to the loss of the overstory canopy because of spruce beetle-induced mortality.” (FEIS 3-31) That situation has not changed. Cover within the project area has declined due to the spruce beetle mortality.

In Chapter 4, Environmental Consequences, the FEIS discusses the effects of the alternatives on big game habitat (FEIS 4-39 through 4-41 and 4-50 through 4-51). Forage is not limiting for deer or elk, but cover is. The FEIS states that cover will be reduced by more than two-thirds within the areas proposed for treatment (FEIS 4-39). The effects of the cover reduction are displayed in Figures 4-16 and 4-20 and discussed on pages 4-40, 4-41, 4-50 and 4-51. One of the effects of the action alternatives is that individual deer will be impacted over the short-term, but the impacts will not likely contribute to a loss of viability to their overall population (FEIS 4-50). This same statement holds true even though recent trends in deer population numbers show a decline.

UDWR commented on the potential impact to elk and deer from this project. In the long run, this project could improve habitat for big game as long as the seasonal closures discussed in the attached Project Design Features remain in place for calving and fawning and prior to the general rifle hunts for deer and elk. In addition, road closures and reclamation of roads following the harvest activities would benefit big game (Bates, pers. comm. 2004)

The road reclamation work is within the direct and cumulative impacts analysis of the FEIS (see errata sheet). It is not necessary to reanalyze the no action alternative.

Comment: Implementation of the transportation section of the South Manti FEIS

Response: The Selected Alternative does not pick and choose various aspects from the alternatives. The Selected Alternative implements Alternative 4 and includes minor changes that are within the scope of the analysis completed in the FEIS (see errata sheet). National Forest System roads and unclassified roads have been decommissioned and their associated impacts are within the expected cumulative impacts described in the analysis.

The Forest Scale Roads Analysis Process (RAP) was completed in November of 2002 and included the Forest’s primary transportation system. Roads with segments within the project area that are included in the Forest Scale RAP are 50022, 50043, 50044, 50049 and 50150. The segments of these roads within the project area are of high value and are critical for management of and access to National Forest System lands. The road management proposals for these roads within the South Manti EIS are consistent with the management recommended in the Forest Scale RAP. The primary objectives at the Forest Scale of analysis are identification of key routes for accessing National Forest System lands, identification of strategic road management issues and priorities, identification of key issues to be addressed at lower scales, and coordination with other government agencies and jurisdictions. Public involvement was kept at this level.

As per FSM 7712.15 decisions made before January 12, 2002 did not require a roads analysis. Though the original decision on the South Manti EIS occurred prior to this date, a project scale RAP was prepared. All roads within the project area were analyzed, including those that were part of the Forest Scale RAP. The project scale RAP was being performed concurrently with the NEPA process. Road management decisions were included in the EIS and public comment was solicited as outlined in Appendix B of the EIS. Issues pertinent to the transportation system that were raised during the NEPA process were used in the roads analysis.

Comment: UDWR Data

Response: Black bear – The UDWR considers the entire South Manti project area to be "high value" black bear habitat that is used year-round (UDWR 2000). The UDWR ranks an area as high value when that area provides for "intensive use" by black bear. The UDWR actually considers the vast majority of the National Forest System land in Utah to be "high value" black bear habitat (UDWR 2000).

UDWR reviewed the DEIS in 1999 and submitted comments on the project. Their comments did not include any reference to black bear. The UDWR commented that there could be benefits to the black bear from this project since the vegetative successional stages were being set back and an increase in aspen regeneration would occur (Bates, pers. comm. 2004)

Elk – The UDWR recently revised its GIS mapping of Rocky Mountain elk habitat in Utah (UDWR 2004). The majority of the harvest units fall within the critical summer habitat for the elk. The other harvest units are within substantial spring/fall elk habitat. The ROD states that "where calving/fawning areas are identified, harvesting activities will not occur between May 15th and July 5th" (ROD, Features Responsive to Issue #7).

UDWR commented on the potential impact to elk and deer from this project. In the long run, this project would improve habitat for big game as long as the seasonal closures discussed in the attached Project Design Features remain in place for calving and fawning and prior to the general rifle hunts for deer and elk. In addition, road closures and decommissioning of roads following the harvest activities would benefit big game (Bates, pers. comm. 2004)

Non-game flora and fauna – The FEIS did consider habitat important to non-game flora and fauna and comments received from the public about the flora and fauna. Refer to the Project Design Features of the ROD for specific examples of how the decision is responsive to flora and fauna issues. (ROD, Features Responsive to Issues #4, 5, 7 and 15). In addition, large portions of the project area will not be harvested, including Inventoried Roadless Areas and riparian areas.

Threatened, endangered, and sensitive species; management indicator species; and migratory birds are addressed in the Biological Assessment, Biological Evaluation, and Wildlife Report.

Comment: Migratory Bird Treaty Act and Executive Order 13186

Response: Neotropical migratory birds were discussed in the FEIS on pages 3-37, and 4-49 through 4-52, and are discussed in the wildlife report. Also refer to the response listed above for non-game flora and fauna on how this decision is responsive to concerns about migratory birds.

Comment: Economic viability of commercial harvest

Response: The Forest Service Manual directs the Forest Service to compare the cost efficiency of various alternatives (Forest Service Manual (FSM) 2432.22c (W.O. amendment 2400-95, page 7). The economic analysis documented in the FEIS (pages 4-68 to 4-73) is consistent with this direction. The $25.00 per MBF (thousand board feet) stumpage figure used in the economic analysis is substantially lower than stumpage for sales sold previously because it reflects the high percentage of helicopter yarding included in the alternatives. The analysis is still valid as it compares the alternatives and gives the decision maker an adequate tool to compare the alternatives.

While market conditions are variable year to year, an appraisal will be performed to determine the actual fair market value (FSM 2430, Forest Service Handbook (FSH) 2409.18) for the salvage sales to be advertised. Depending on the current supply and demand at the time of advertising, the prospective purchaser will submit bids on the timber sale. The Manti-La Sal National Forest still receives requests as to when the S. Manti Salvage will be offered for competitive bidding by prospective purchasers. The comment made by Satterwhite Log Homes was an emotional statement made during the ongoing litigation of the 2000 decision.

Comment: Inventoried Roadless Areas and Forest Plan Revision

Response: Congress has statutorily released The Inventoried Roadless Areas (IRA) on the Manti-La Sal National Forest from wilderness consideration. The Code of Federal Regulations mandates that unless otherwise provided by law, roadless areas within the National Forest System shall be evaluated and considered for recommendation as potential wilderness areas during the Forest Planning process. The selected alternative does not enter any of the Inventoried Roadless areas as described by RARE II or the Forest Plan. Wilderness and economics associated with Inventoried Roadless Areas are beyond the scope of this analysis. However, potential consequences are disclosed in Chapter 4 and the impacts to undeveloped character are analyzed within the analysis (pages 4-61 to 4-65). .

Errata Sheet Relative to the South Manti FEIS

1. Administration of the Forest Transportation System: The Temporary Suspension of Road Construction and Reconstruction in Unroaded Areas; Interim Rule (often referred to as the Interim Roads Rule) was issued in the Federal Register on February 12, 1999 and placed a moratorium on road construction and reconstruction in roadless areas. This interim Rule has been replaced by Administration of the Forest Development Transportation System; Prohibitions; Use of Motorized Vehicles off Forest Service Roads; Final Rule – Forest Service Transportation; Final Administrative Policy; Notice (often referred to as the Roads Rule) issued in the Federal Register on January 12, 2001. This rule established the requirements for a forest transportation atlas and that road decisions be informed by a science-based roads analysis. Issued in the Federal Register on the same date was the Roadless Area Conservation: Final Rule that placed limitations on road construction and reconstruction in inventoried roadless areas with some exceptions. The Roadless Area Conservation: Final Rule is currently enjoined. Consequently, there is nothing to prevent the Forest Service from selecting an alternative that enters Inventoried Roadless Areas (IRA) or the contiguous areas adjacent to IRA's. Design Features relating to no new construction of temporary roads in IRA's areas has been modified so that existing road prisms and cuts may be used and reclaimed after use. Minor amounts of skid roads could be used when necessary to facilitate safe logging practices. Impacts would be within the scope of the analysis since the impact of the cut and fill, as well as bare mineral soils already exists.

2. Forest Development Roads (FDR) are now called National Forest System Roads (NFSR) and what are referred to in the FEIS as nonsystem roads and trails are called unclassified roads and trails. Reclamation of roads is now referred to as decommissioning.

3. Approximately 54% (10.5 miles of the 19.3 miles identified in the FEIS) of the unclassified roads and trails, as well as NFSR 50285, 52333, and 52366 have been decommissioned and taken off the system per the May 22, 2000 decision prior to that decision being vacated.

4. A mapping error exists for the location of the tractor-logging portion of unit F1 and the termination length of NFSR 52062 to be used with this project. The FEIS map shows NFSR 52062 ending on the southwest portion of the tractor unit, when it actually exists through the unit and ends on the northeast side of the unit as shown on the Selected Alternative map. The FEIS shows the tractor portion primarily on the north side of NFSR 52062, which is in error. The majority of the unit is actually on the south side of NFSR 52062 as shown on the Selected Alternative map. Acres impacted and the effects remain the same. These were both simple mapping errors.

5. A mapping error exists on the map and relative calculations for the undeveloped character map shown on pages 3-52 and 4-85 of the FEIS as the actual location of NFSR 52062 (open to public travel – maintenance level 2) and NFSR 52637 (closed to public travel – road maintenance level 1) were not included within the analysis as they should have. Consequently, the amount of impacts to the undeveloped character is approximately 300 acres less than what is described in the FEIS.

6. The MIS has changed from the blue grouse to the northern goshawk. Design features relative to the blue grouse are no longer valid and deleted. The impact analysis for the northern goshawk is still valid and applicable.

7. FEIS page 3-36 under the northern goshawk. The reference is listed as USDA Forest Service, 1999, and it should be listed as Utah National Forests et al. 1988.

8. Using Inventoried Roadless Area data from the Forest Service Roadless Area Conservation national website, NFSR 50044 is shown crossing over the boundary of the Muddy Creek-Nelson Mountain Inventoried Roadless Area (IRA). The overlap is the result of overlaying broad scale, lower accuracy data for the IRA with a finer scale, higher accuracy data for the road. The IRA boundary should be following NFSR 50044 on the east side of the road. The impacts in the analysis are still the same.

9. The first Design Feature responsive to harvesting of trees has been revised to include the removal of trees to necessitate safe logging practices. Impact analysis is still the same.

10. Design Feature responsive to Undeveloped Character has been revised to reflect current road management direction. Impact analysis is still the same.

11. Design Feature responsive to Roadless Character has been removed, as the Selected Alternative does not enter any of the RARE II or Forest Plan Inventoried Roadless Areas.

12. Reviewed the past, present, and future conditions for accuracy and the cumulative impacts. Present and future actions have taken place and the impacts are within the anticipated impacts described in the direct and cumulative impacts of the FEIS.

PROJECT DESIGN FEATURES

All action alternatives include design features that would better implement the project. **All applicable Forestwide and Management Unit direction identified in the Forest Plan, laws, rules, and regulations are hereby incorporated by reference unless otherwise stated.** The following project design features are listed by issue topic in additional to the incorporated by reference material.

Features Responsive to Issue #1 -Air Quality

- Follow the procedures and requirements in the State of Utah Smoke Management Plan
- Use techniques to minimize smoke production and impacts from prescribed burning:
  - Follow the procedures and requirements in the State Smoke Management Plan.
  - Follow guidance in Manti-La Sal National Forest Smoke Management Guideline for Prescribed Fire
  - Burn when conditions are good for rapid dispersion.
  - Burn under favorable moisture conditions.
  - Keep soil out of burn piles.
- Notify area residents and users of activity.

Features Responsive to Issue -Land Stability

- Confine operations to dry conditions or wintertime, typically the dry field season is July 1st to October 1st. .
- Do not locate log decks at the heads of existing landslide areas.
- Avoid, where practical, road construction/reconstruction and staging areas on lands classified unstable or
- moderately unstable, slopes greater than 40 percent, and existing landslides. Where avoidance is not practicable, locate and design facilities to minimize landslide risk (changes to topographic and drainage conditions).

Features Responsive to Issue #3 -Soil Erosion and Productivity

- Confine operations to dry or frozen conditions. The usual dry field operating season is July 1st through October1st; however, summer storms can temporarily change soil moisture conditions. Generally, soils are too wet when equipment creates six-inch ruts. Roads are too wet when ruts are 2 inches deep on aggregate surfaced roads and 3 inches deep for native surfaced roads.
- Maintain 10 to 15 tons per acre of woody debris in harvest units to maintain soil productivity. Use C(T)6.7# -Slash Disposal to assure retention of large woody material (material greater than 3 inches in diameter). Materials should be evenly distributed over the area. At least 25 percent of the material should be greater than ten inches in diameter. It is desirable to have the materials in varying degrees of decomposition.
- Apply Best Management Practices (identified in Part D-2) to all road work and timber sale activities.
- Rip areas having severe compaction after use to a depth of 8-12 inches; scarify other compacted areas to a depth of 2-4 inches to prepare a seed bed.
- Prescribed burning would be conducted so as to not adversely impact the soil resource (i.e. manage fire intensity to obtain desired results).

Features Responsive to Issue #4 -Water Resources Quality

- Apply Best Management Practices, as identified in Part 0-2, to assure compliance with applicable water quality protection regulations.
- Place logging slash and large woody debris on skid trails following harvest.
- Prior to preparation of the timber sale contract, a Hydrologist and Presale Forester will visit the sale and prescribe site specific Soil and Water Conservation Practices that will be included in each sale contract.
- Stabilize and reseed helicopter landing areas when management activities have finished.

Riparian/Wetlands/Floodplains

- No harvesting or mechanical entry (e.g. skidding, landings) will be permitted within 100 feet of each perennial stream bank, seep, lake, reservoir, or wetland, unless otherwise agreed to by the hydrologist or fisheries biologist. Rehabilitation of any damage is required.
- Except where crossing are agreed to, protect intermittent streams with no harvest within 35 feet, and no mechanical entry (e.g. skidding) within 50 feet. Landings will not be located in this buffer area.
- Where roads must cross the perennial or intermittent streams, they will cross as nearly perpendicular to the riparian area as practicable. No more than 200 feet of road-side ditch will lead into perennial or intermittent stream channels.
- Maintenance of existing roads in wetlands will be accomplished in accordance with Best Management Practices. Construction or reconstruction of roads through wetlands will use the guidelines in *Managing Roads for Wet Meadow Ecosystem Recovery* (USOA-FS, 1996) or other best available technologies.
- Petroleum products and other hazardous materials will be stored in upland locations and no closer than 200 feet from a perennial or intermittent stream channel, wetland, or riparian area.

Aquatic Habitat

- Macroinvertebrates -The diversity index DAT (DAT combines measurements of the number of taxa and biomass as an indication of diversity) will be maintained at or above 11, the standing crop at or above 1 and the biotic condition index at or above 75 (FP, 111-20). One station for sampling is at the mouth of Duck Fork Creek (established in 1995). Monitoring of this station is part of Forest-level monitoring. If DAT and Standing Cup and biotic conditions fall below set levels then evaluation of cause of sediment source would be done and corrective measures taken as soon as possible.
- Prior to contract, all perennial streams crossed by proposed roads will be reviewed by a Fish Biologist and Engineer to determine appropriate fish passage structures. The State of Utah Division of Wildlife Resources will be invited to such reviews.

Threatened, Endangered, and Sensitive Aquatic Species

- Where activities or uses may impact threatened or endangered species or their habitats, consult with the U.S. Fish and Wildlife Service. Include the results of consultation in determining the viability of the activity or use.

Features Responsive to Issue #5 -Vegetation Resource Forest Health, Diversity, and Productivity

- Live Engelmann spruce and subalpine fir trees plus dead Douglas-fir and Subalpine Fir trees would not be harvested unless to necessitate safe logging practices.
- Timber Sale Contracts will be developed using the Intermountain Region's approved C(T) provisions for 2400-6(T) contracts and Special Provisions for 2400-3(T) contracts. Other contracts or permits that may be used are the Forest Product Contract (2400-4), Forest Product Permit (2400-14), fuelwood permit (2400-1), free-use permit (2400-8), and administrative use permit.

- Locations for temporary roads, log landings, and skid trails would be approved as specified in the Timber Sale Contract provisions. Generally, log landings for ground-based operations would be located along harvest access roads every 1/8th to 1/4th mile. Log landing and decking areas would likely be less than 1/2 acre in size for ground-based yarding areas and less than 2 acres in size for helicopter yarding units.

- Special Provisions C(T)6.41 -Felling And Bucking, C(T)6.411 # -Felling and Bucking (Special Objectives), and CT6.42# - Skidding and Yarding (Special Objectives) would be included in the Timber Sale Contract to provide protection measures for live residual tree stands.

- Special operation instructions to close and stabilize temporary work roads, skid trails, and landings will be listed in the following C(T) provisions.

  C(T)5.44# -Obliteration of Temporary Roads. This provision would require the timber purchaser to restore the temporary road to original contour. This work includes ripping the surface for seeding, pulling material from the fill slope and brow of the cut slope on the running surface of the road, removal of drainage structures, and placing slash, stumps, or cull logs on the road surface.

  C(T)5.45# -Closure of Temporary Roads. This provision would be used when there is a need for some type of closure beyond what is called for in BT 6.62 -Temporary Roads.

  C(T)6.6# -Erosion Prevention and Control. The provision provides direction for temporary road location and width, skid trail location, maintenance of culverts and drainage structures, and requires erosion control work to be current with operations and in any case no later than 15 days after completion of skidding on each payment unit.

  C(T)6.601 # -Erosion Control Seeding. This provision provides for seeding and fertilizing: all exposed areas of raw soil as designated by the Forest Service on skid trails, landings, firebreaks, slides, slumps, temporary roads and travel ways of specified roads.

  C(T)6.602# -Protection of Disturbed Areas from Establishment of Noxious Weeds. This provision would be used when there is an identified need to establish a vegetative cover to minimize the establishment and growth of noxious weeds

  C(T)6.7# -Slash Disposal.

  1. This provision requires a timber purchaser to machine pile landings, lop limbs and tops (to a 3 inch DIB (Diameter Inside Bark)), and lop and scatter logging slash through all cutting units so slash depths are no more than 24 inches high.

  2. Other C(T)6.7# slash disposal requirements will be implemented as required to meet individual stand or road construction conditions or needs, and will be prescribed by a Silviculturist or Engineer (i.e. hand or machine fireline construction, fuelbreak construction, hand pile slash, dozer piling, felling damaged residual trees, yarding tops, limb and top removal, yarding un-utilized material, slash throwback, purchaser pile and burn, scattering slash away from
  leave trees that are 8 inches DBH (Diameter Breast Height) and large. Tractor yarded units shall be whole tree harvest with cull material to be left in order to meet soil, water, and wildlife requirements.

  C(T)6.72# -Temporary Road Construction Slash Disposal. This provision describes slash treatment methods for slash created from temporary road development.

- No firewood gathering in harvest areas during contract operations. .Include C(T)6.25# Protection of Habitat of Endangered Species. .C(T)6.24# Protect Cultural Resources.

- Silvicultural release and weed activities will be implemented after harvest in units to improve stand health promote diameter and crown growth and development, improve species diversity and distribution, reduce encroachment of less desirable species on desirable species (aspen, Engelmann spruce, Douglas-fir, and, limber pine), and meet short and long-term resource objectives.

- Reforestation activities will be prescribed and monitored by a Silviculturist.

- Reforestation of harvest areas will be accomplished by natural regeneration, or by hand planting bare root seedlings or containerized seedlings grown from seed collected from appropriate seed sources. Site preparation tools for reforestation activities may include machine scarification, hand scarification, and prescribed fire.
- Where aspen occurs within the harvest areas, reforestation measures would favor aspen regeneration through sprouting. Spruce seedlings would not be planted within the fringe area around existing aspen clones. The width of the fringe area should not exceed the height of the dominant aspen trees in the clone or 2/3 the height of the surrounding conifer trees. If aspen sprouting does not naturally occur where expected after harvest, mechanical preparation or prescribed fire may be used as part of post-harvest treatment of slash to further stimulate sprouting.
- 10 to 15 tons per acre of large (> 3") woody debris will be maintained on site to protect soil productivity and to provide microsite protection for seedling establishment and protection.
- Appropriate protection activities may include exclusion of livestock from plantations through fencing or allotment administration (rest rotation, closure, herding practices, or salt placement), and underground strychnine baiting of burrows in and around planted areas to reduce pocket gopher populations.
- Treatment of gophers will occur only where needed using underground treatment methods. Control measures may be applied when 25 to 35 percent of a 2-year old plantation contains active gopher mounds or when 40 to 50 percent of a 3 to 5 year old plantation contains active gopher mounds (The Northern Pocket Gopher, Ronald E. Bonar, Wallowa-Whitman National Forest, August 1995). During the first, third, and fifth year stocking survey exams the plantations will be visually assessed for gopher activity. If this survey identifies sufficient amounts of gopher activities or damage to seedlings then a formal gopher survey will be performed and appropriate action will be taken.
- Plan post harvest projects in the Sale Area Improvement Plan (KV (Knutson-Vandenberg) If KV funds are not available, projects will be programmed and appropriated funds requested. Annual maintenance and removal of protection structures (i.e. fences) will be included in the funding process.
- Native plant species and species which discourage pocket gopher activity are preferred for revegetating landings, skid roads, temporary roads, or other disturbed areas. Species composition, including tree species in the Range management units, will be reviewed by silviculturists, vegetation management specialists, and wildlife biologists to determine appropriate species mixes.

Noxious Weeds

- Continue control of noxious weeds with existing decisions and agreements.
- Special Provision C(T)6.27# -Noxious Weed Control will be used to prevent the potential spread of noxious weeds into harvest units. Timber purchasers would be required to furnish proof of weed-free equipment. If available, KV funds would be collected to treat any noxious weeds that may invade disturbed areas following operations.

Threatened Endangered and Sensitive Plant Species

- Where activities or uses may impact sensitive plant species or their habitats, initiate the following procedures:

  - No harvesting within riparian zones.

  - Habitats and known population sites will be surveyed prior to harvest activities to determine distribution of plants.

  - Plants and habitat identified will be marked, staked out, and flagged to identify the areas where no project activity will occur.

  - Where appropriate, barriers may be placed to prevent project equipment and personnel from disturbing sensitive plants and their habitat.

  - No gravel will be taken from the steep slopes where sensitive plants exists within the gravel source area.

  - Advancement of the South Camel gravel pit to the north would be prohibited.

Features Responsive to Issue #6 -Fuel Loading and Fire Risk

- Slash, substandard, and cull material left at landings would be piled or scattered by the timber purchaser. Areas of heavy slash concentrations throughout the units would be either machine piled by the timber purchaser and burned by Forest Service personnel, or jackpot burned by Forest Service personnel. Fuelbreaks may be constructed within and/or around treatment units. Deposits needed to complete this work would be collected through the brush disposal plan.

Features Responslve to Issue #7 -Wildlife Resources Management Indicator Species

- Where calving/fawning areas are identified, harvesting activities will not occur between May 15th and July 5th.
- All harvest activities are prohibited during the first *two* days of the general rifle elk and deer hunts, and no hauling is allowed the day prior *to* the season opener.
- Known goshawk nest sites will be protected during the nesting season period from March 1 – September 30. For other raptors nest sites will be protected during the nesting season period from March 1 -Aug 31. Raptor nests found during harvest activities will require operators to notify the Forest Service for further evaluation.
- No nest trees with cavities will be harvested.
- Provide 50 logs per 10 acres within the project area to meet down woody drebris requirments. Minimum log size of 12 inches in diameter at the mid-point and 8 feet in length
- Retain 100 tons of woody debris/10 acre greater than 3 inches in diameter; including down logs. Where necessary and feasible, protect snags with surrounding vegetation (trees).
- Retain 300 snags per 100 acres with a minimum of 18 inches in diameter at breast height and 30 feet in total height.
- Wildlife snag trees will be identified and protected from firewood harvest. Designate snags away from roads or locations otherwise protected from removal by firewood cutters.
- Winter hauling: If requested for winter use, the haul routes within wildlife winter ranges will be reviewed for travel access restrictions. Considerations will include current and predicted weather patterns and big game herd health and needs. The State of Utah Division of Wildlife Resources will be consulted in making the appropriate use determination.

Threatened Species

- Helicopter flights will *not* be allowed within 1/2 mile (sight distance) of roosting Bald Eagles from October 1 though November 15.

Sensitive Species

- Goshawk -Implementation strategies will be followed per the Conservation Strategy and Agreement for the Management of Northern Goshawk Habitat in Utah. This is consistent and complies with the Utah Northern Goshawk Forest Plan Amendment signed on April 14, 2000. In addition to this, surveys for new nesting territories will be conducted in areas of suitable habitat the year prior to offering each sale and appropriate changes made if new nesting territories are found.
- Flammulated Owl -Along ridge tops and at mid-slope on south or east aspects in areas containing Douglas-fir mixed with spruce and/or aspen manage for the retention of all large snags containing cavities. In these same areas retain small pockets of dense vegetation where they exist.
- Three Toed Woodpecker -A minimum of 1 snag per acre within the harvest units will be retained. If possible retain and leave snags with broken tops.
- Spotted Bat -Manage for vegetative diversity across the landscape. Inventory limestone cliffs, mines, or caves where impacts may occur. No rock material will be disturbed from cliff faces. Pit blasting will not occur prior to surveys, with the Forest

Service being notified of blasting 30 days in advance. If surveys identify roosting utilization, impacts will be reassessed and appropriate measures taken.

- Townsends Big-Eared Bat - Manage for vegetative diversity across the landscape. Inventory limestone cliffs, mines, caves, or old buildings where impacts may occur. No rock material will be disturbed from cliff faces. Pit blasting will not occur prior to surveys, with the Forest Service being notified of blasting 30 days in advance. If surveys identify roosting utilization, impacts will be reassessed and appropriate measures taken.

Features Responsive to Issue #8 -Transportation

- Temporary work roads shall be returned to resource production and use compatible with the management unit emphasis. Appropriate timber sale closures for erosion prevention and control and for reclamation of temporary roads would be incorporated into each contract.
- Allow commercial or permitted use on National Forest System Roads (NFSR). If the road meets design standards but the combined use does not fulfill public safety requirements due to volume of traffic, the road may be administratively managed to control conflicting traffic, unsafe conditions or traffic flows (FP, 111-40). Road use restrictions are listed in appendix F (Roads with hauling prohibited or restrictive limitations).
- Warning signs will be installed at the entrance to road construction or reconstruction projects, on NFSR's used for timber haul, at the junction of NFSR's and work roads, and near dispersed camp areas 1/4 mile from logging operations. If necessary, traffic controllers (flaggers) will be used.
- Vehicle Access Restrictions and Operating Season Restrictions: Vehicle access restrictions will remain in effect as shown on the Travel Map, as amended.
- Hauling logs on weekends, holidays, during the first two days of the general rifle deer and elk hunt, and the day before general rifle deer and elk seasons will be prohibited. The dates of hunts will be established by the State Division of Wildlife Resources. These restrictions would be identified in timber sale contract.
- Winter hauling will be negotiated and authorized annually based on safety, road damage, and resource protection (see wildlife design features) and recreation use.
- Where possible locate/construct work roads to facilitate closure which will minimize unauthorized use.
- Preclude public use of newly constructed project roads by Forest Supervisor order and signing.
- Hauling will be suspended whenever conditions compromise the road investment or public safety.
- Reclaim unclassified roads in and adjacent to the project that will not be used for logging activities and are not needed for future resource management. These roads would be decommissioned over a period of 5 years as funding becomes available.
- Dust abate haul roads as needed.

Features Responsive to Issue #9 -Range Allotments and Improvements

- Coordinate grazing and timber activities. The timber sale contract Forest Service Representative (FSR) will send a copy of the general operating plans to range specialists to help facilitate this coordination.
- Maintain and protect all range improvements. The timber sale operator will be responsible to repair any damages they cause, in a timely manner.
- Livestock grazing would be discouraged within reclaimed roads for two to three seasons to allow vegetation (for erosion control) to become established. Grazing could be discouraged by resting an entire unit, herding techniques, animal husbandry, salting, and seed mixes not attractive to livestock.

- In the harvest units, grazing may be prohibited until spruce and fir regeneration reaches a minimum average height of 4 feet. This height should be attained within 15 to 20 years. This may require fencing in some situations that will be maintained by appropriated funds. If long-term reductions are necessary, they will need to be coordinated with the permittees at least two years in advance in order for the permittee(s) to make arrangements for the excess livestock.

Features Responsive to Issue #10 -Visual Landscape

- Employ techniques such as feathering, leave trees, shaping cuts to duplicate naturally occurring open pockets, or aspen clones in the area, which alleviate unnaturally appearing geometric lines and forms.
- When practical, avoid skyline salvage related disturbance. Objects or unnaturally appearing forms become greatly exaggerated when in silhouette on the horizon; particularly when contrasted against a blue-sky or moon-lit background.
- Where practical, angle skidding and logging road corridors away from NFSR's and major trails and align them as close to the natural contour as possible to prevent direct views down these corridors.
- Where necessary to meet Forest Plan visual quality standard, remove or visually screen from view, salvage-created slash which may be readily recognized within the immediate foreground view.
- Where practical, directional fell trees away from roads and trails and cut trees at a slant (low to the ground) positioning the exposed cut to face away from the trail or road.
- Landscape/Recreation Specialist and Presale Forester will visit the project area and identify visually sensitive areas to be included in the contract and apply the appropriate contract provisions (see B(T)6.412, C(T)6.7).

Features Responsive to Issue #11 -Undeveloped Character

- No new temporary roads contruction shall be constructed in areas 1000+ acre areas adjacent to Inventoried Roadless areas. Do not construct in the following units: A-9, 8-4, C-3, C-8, D-1, D-2, D-3, D4/5, E-1, E-3, E-4, F-1, F-3, and G-2. However, existing road prisms may be reopened, maintained, and decommissioned after use.

Features Responsive to Issue #12 -Cultural Resources

- Implement the Memorandum of Understanding with Utah State Historic Preservation Office (SHPO) and Advisory Counsel. Implementation of the operating plan (Project File) in-part includes:
- Conduct inventories of all harvest units, landings, road construction and reconstruction, and other associated activities prior to timber sale and road contracts.
- Evaluate and protect in-place all National Register eligible sites.
- When in-place protection is not possible, modify proposed activities to avoid, mitigate, or minimize impacts in consultation with the SHPO and Advisory Council.
- Where project activities cannot be modified to protect sites in-place, develop plans to recover scientific data in accordance with the National Resources Protection Act, Archaeological Resources Protection Act, and the Native American Graves Repatriation Act.
- Discovery of previously unknown sites, either on the surface or subsurface, may occur during project implementation. The Timber Sale Contract includes a provision for Protection of Cultural Resources (either C6.24# or CT 6.24#). These provisions state that the discovery of any cultural resource sites during project implementation would require mitigation or avoidance.
- Consult with appropriate Native American entities.

Features Responsive to Issue #13 - Economics

- Timber sales will be developed and offered for sale based on many factors including volume locations, economics, harvest methods, road construction requirements etc.

Features Responsive to Issue #14 - Energy

- None

Features Responsive to Issue #15 - Roadless Character

- None, as the selected Alternative does not enter any of the Inventoried Roadless Areas.